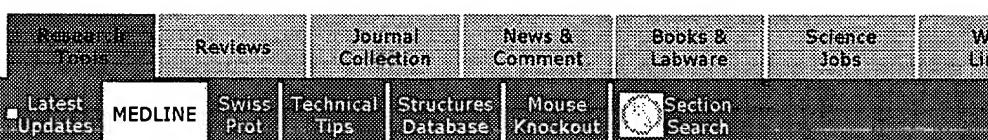


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Abstract

The introduction of chimeric sense and antisense gene constructs for 4-coumarate:coenzyme A ligase into tobacco plants caused the reduction of the 4CL activity in the transgenic plants. In the transgenic plants, the cell walls of the xylem tissue in stems were brown and the molecular structure of lignin in the colored cell walls was dramatically different from that in the control plants. Analysis with different types of stain revealed that levels of cinnamyl aldehyde residues and syringyl units in lignin were depressed in the brownish cell walls. Furthermore, the lignin content in colored tissue was lower than that in the normal tissue. Our results indicate that 4CL has important roles in the determination of the composition and the amount of lignin in tobacco plants.

MeSH

[Blotting, Northern](#); [Chimeric Proteins](#); [Coenzyme A Ligases](#); [Lignin](#); [Molecular Sequence Data](#); [Plants, Transgenic](#); [Tobacco](#)

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